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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,020	02/23/2006	Johannes Petrus Maria Ansems	NL031011	2031
24737 7590 09/21/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER ALAVI, ALI	
			ART UNIT 2875	PAPER NUMBER
			MAIL DATE 09/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/569,020

Applicant(s)

ANSEMS ET AL.

Examiner

Ali Alavi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borner et al (US Pat. No 6,234,648).

Borner teaches a color mixing lighting system having a light-emitting diode (6, 7,8) emitting first visible light having a first peak wavelength in a first spectral range, a fluorescent material (10) converting a portion of the first visible light into second visible light having a second peak wavelength in a second spectral range, the second visible light having a full width at half maximum (FWHM) of at least 50 nm (abstract, lines 3-6, and fig. 2).

Regarding claim 2, Borner further teaches that the second visible light is red light, the second peak wavelength being in the range from 590 to 630 nm [fig 2, (b)].

Regarding claim 3, Borner further teaches that the second peak wavelength is in the range from 600 to 615 nm [fig. 2, (b)].

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Regarding claim 4, Borner further teaches that the first visible light emitting diode (6) emits blue light, the first peak wavelength being in the range from 445 to 470 nm and the full-width at half maximum (FWHM) being in the range from 15 to 30 nm [fig. 2, (a)].

Regarding claim 5, Borner further teaches a further light-emitting diode (7) for emitting third visible light having a third peak wavelength in a third spectral range (fig. 2, (c)).

Regarding claim 6, Borner further teaches a light-emitting diode (7) emits green light, the third peak wavelength being in the range from 510 to 550 nm and the full width at half maximum (FWHM) being in the range from 25 to 45 nm [fig. 2, c] .

Regarding claim 7, Borner further teaches that the fluorescent material (10) converts blue light into red light, the fluorescent material being selected from the group formed by  $\text{SrS:Eu}$ ,  $\text{Sr}_2\text{Si}_3\text{N}_8\text{:Eu}$ ,  $\text{CaS:Eu}$ ,  $\text{Ca}_2\text{Si}_3\text{N}_8\text{:Eu}$ ,  $(\text{Sr}_{1-x}\text{Ca}_x)\text{S:Eu}$  and  $(\text{Sr}_{1-x}\text{Ca}_x)_2\text{Si}_3\text{N}_8\text{:Eu}$  and  $(x = 0.0\text{-}1.0)$  [col. 2, lines 16-20, and lines 53-56].

Regarding claim 8, Borner further teaches that fluorescent material (10) converting a portion of the first visible light into third visible light having a third peak wavelength in a third spectral range with the third peak wavelength in the range from 510 to 550 nm and a FWHM of at least 40 nm [fig. 2].

Regarding claim 9, Borner further teaches that fluorescent material (10) converts blue light into green light, the fluorescent material being selected from the group formed by  $(\text{Ba}_{1-x}\text{Sr}_x)_2\text{SiO}_4\text{:Eu}$  ( $x = 0\text{-}1$ , preferably  $x = 0.5$ ),  $\text{SrGa}_2\text{S}_4\text{:Eu}$ ,  $\text{Lu}_3\text{AlSiO}_{12}\text{:Ce}$  and  $\text{SrSi}_2\text{N}_{20}\text{:Eu}$  [col. 2, lines 16-20].

Borner discloses the invention as claimed but doesn't teach the exact range. It would have been obvious to one having ordinary skill in the art at the time the invention was made to achieve the desired range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering an optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233, *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Doughty et al (US Pat. No 5,851,063), and Robertson et al (US Pat. No 6,068,383), Duggal (US Pat. No 6,357,889) all are cited of interest.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Ali Alavi** whose telephone number is **(571) 272-2365**. The examiner can normally be reached between 7:00 A.M. to 5:30 P.M. Tuesday to Friday. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Sandy O'Shea can be reached at (571) 272-2378 or you may fax your inquiry to the **Central Fax at (571) 273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**ALI ALAVI**  
**PRIMARY EXAMINEE**